degree of interest to pomologists which justifies reproduction in a journal more likely to come under their notice than those in which they originally appeared. It is improbable, moreover, that with research bearing on fruit culture in active progress at such centres as Woburn, Long Ashton, and East Malling, as well as at Cambridge and the John Innes Institution at Merton, there will be any dearth of material on the scientific side for future numbers.

In addition to the articles mentioned, others of particular interest which have already appeared in the journal are those on "Black Currant Varieties," by R. G. Hatton; "Seedling Apples," by the editor and Edward Laxton; "Insect Visitors to Fruit Blossom," by C. H. Hooper; and "The Recognition of Fruits," by H. E. Durham.

Provided that the policy already adopted of the inclusion of reviews and short summaries of recent pomological research as well as of original papers is maintained, those whose interests are mainly centred on fruit culture should find this journal of much service in keeping them in touch with the advance of knowledge in the subject—a matter which has not been easy hitherto owing to the diversity of the publications in which such work has appeared.

University and Educational Intelligence.

Birmingham.—At a Degree Congregation held on July 10 the Vice-Chancellor (Sir Gilbert Barling, Bart.) conferred the following degrees:—*Doctor of Science:* Frederick Challenger, Arthur Hubert Cox, Harold Ashley Daynes, and John Leslie Haughton. *Doctor of Medicine:* Gladys Mary Cooksey. *Philosophiae Doctor* (a degree new to this University): William Hulse, Frederick Joseph Meggitt, and Leonard Johnston Wills. *M.Sc. (Official):* William Cramp, Arthur Robert Ling, Gilbert Thomas Morgan, Samuel Walter Johnson Smith, and Richard Henry Yapp. *M.Sc. (Ordinary):* F. H. Clews, H. J. Collins, H. G. Evans, A. E. Goddard, F. B. Jenkins, L. J. Lambourn, E. W. Mason, K. N. Moss, A. H. Naylor, N. A. Nicholls, D. S. Newey, A. J. Nicholson, G. N. Scott, H. J. Thompson, E. Tyler, and W. R. A. Weatherhead. *Master of Surgery:* B. T. Rose.

In addition to these, 107 candidates were admitted to the degree of B.Sc. and 16 to the degree of M.B.

The honorary degree of Master of Music was conferred on Sir Thomas Beecham and Francis Donald Tovey.

Bristol.—The resignation of Prof. F. Francis as dean of the faculty of science is announced. Prof. A. M. Tyndall is to succeed him in the office, with Mr. P. Fraser as deputy dean.

Prof. C. Lloyd Morgan, on relinquishing his chair, has been appointed emeritus professor of psychology and ethics.

Dr. C. D. Broad has been appointed to the chair of philosophy.

Cambridge.—Dr. T. M. Lowry, C.B.E., has been elected professor of physical chemistry in the University. This is a first appointment to a newly created chair.

Liverpool.—Dr. W. Mason has been appointed professor of engineering (strength of materials), Mr. C. O. Bannister professor of metallurgy, and Mr. W. H. Gilmour professor of dental surgery.

London.—The King has been pleased to approve the appointment of Mr. Ernest Barker, fellow and tutor of New College, Oxford, to the office of Principal of King's College in succession to the late Dr. R. M. Burrows.

Applications are invited for the William Julius Mickle fellowship, which is awarded annually to the man or woman who, being resident in London and a graduate of the University, has, in the opinion of the Senate, done most to advance medical art or science within the preceding five years and shown conspicuous merit. The fellowship is of the value of at least 200*l.* Applications must reach the Principal Officer of the University by, at latest, the first post on October 1 next.

Manchester.—The King, on the recommendation of the Chancellor and Council of the Duchy of Lancaster, has contributed 100 guineas to the appeal fund.

The Manchester correspondent of the *Times* announces that Mr. Maxwell Garnett, Principal of the College of Technology, has resigned, and is asking to be relieved of his duties at the end of the summer vacation. He adds:—"There has for some time past been acute controversy between the Principal and the Education Committee regarding the former's policy of raising the educational status of the college, which constitutes the Department of Technology in Manchester University. The Education Committee recently decided to limit the number of degree students and to admit a certain number of senior technical-school boys as whole-time students. In communicating this decision to candidates for admission to the degree courses, Mr. Garnett suggested the possibility of its reversal by the City Council. The Education Committee published its censure of this letter, and both the policy of the committee, which was represented in the debate as an emergency policy for a single year, and the censure were endorsed by the City Council last week." Under Mr. Garnett's guidance the educational work of the college has developed greatly, the number of matriculated students being now more than six times greater than it was when he became Principal eight years ago. The demand for graduates from the college is far greater than the supply, and there has been a ready response to the appeal for funds for the purpose of extending its highest work.

Mr. W. M. Cumming, hitherto of the British Dyestuffs Corporation, Ltd., has been appointed senior lecturer in organic chemistry at the Royal Technical College, Glasgow.

Two Frecheville research fellowships, each of the yearly value of 300*l.*, tenable for one year, and possibly for a second year, are being offered by the Imperial College of Science and Technology, South Kensington. The fellowships are intended to aid in carrying out any investigation or research connected with mining, mining geology, metallurgy, or the technology of oil considered by the selection committee to be of sufficient use or promise. Applications, in writing, giving particulars of the proposed investigations of candidates, should be made to the Secretary of the College by, at latest, August 31 next.

The following bequests, among others, were made by the late Mr. T. W. Backhouse, whose death was reported in Nature of May 13 (p. 335):—50*l.* to the British Association; 700*l.* to his trustees upon trust, to apply the same as they in their absolute discretion may consider expedient towards the carrying on of the scientific calculations based upon observations and notes made by him in astronomy, meteorology, or other branches of science, and towards the publica-

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tion of them, any sum remaining over being given to the British Association; and all his astronomical journals and drawings of Jupiter and Mars to the British Astronomical Association. His trustees are to complete and publish the star maps for tracing meteor paths now in process of completion under the care and charge of Sir William Peck, of The Observatory, Edinburgh.

A SUMMER meeting of the Association of Technical Institutions will be held at Cambridge on Friday and Saturday, July 23–24. The proceedings will commence on the Friday at 10 a.m., when the president, the Marquess of Crewe, will take the chair. Papers will be read on Friday morning by Principal J. C. Maxwell Garnett on a national system of education and by Principal C. Coles on the necessity for close co-operation between technical colleges and the universities. On Saturday morning Principal C. L. Eclair-Heath will read a paper on the relations which should exist between the day continuation schools and the central technical college, and Principal L. Small one on adult education in relation to the work of technical schools. Resolutions dealing with adult education will be submitted at the conclusion of the reading of Principal Small's paper.

WE are notified by the Board of Education that the removal of the main offices of the Board from the Victoria and Albert Museum, South Kensington, to King Charles Street, Whitehall, is in progress, and will, it is hoped, be completed by the end of the present month. On and after July 26 the official address of the Board will be Whitehall, S.W.1. It is requested that only urgent communications shall be sent until after July 24, and that these shall be marked "Urgent" on the outside wrapper. The Medical Branch of the Board is at Cleveland House, 19 St. James's Square, S.W.1. The Pensions Branch is at the Science Museum, Imperial Institute Road, South Kensington, S.W.7. The Examinations Section of the Board is housed at 49 Cromwell Road, South Kensington, S.W.7. The office of Special Inquiries and Reports and the Library will remain for the present at the Victoria and Albert Museum. Visitors whose business solely concerns these branches should call at the addresses given above.

THE activity of the scientific society of a school may be taken as a measure of the interest aroused in scientific subjects and a sign of progressive teaching. Clifton College occupies a high position, judged by this standard, and its scientific society founded so long ago as 1869, continues to foster the inborn aptitude of many young people for observation and experiment. We have before us a list of exhibits at a conversazione given by the society on July 8, and we do not hesitate to say that the demonstrations, apparatus, specimens, and collections shown would do credit to any scientific society. The demonstrations included wireless telegraphy and telephony, the artificial formation of clouds, the fixation of nitrogen, the fractional distillation of petrol from crude petroleum, and other subjects, and the exhibits illustrated many interesting facts and phenomena of biological and physical science. The conversazione was held to show to parents and friends the work and resources of the scientific society, and we are sure that the company must have been impressed by what was displayed. Clifton College is renowned among the public schools for its attention to science, and the recent conversazione shows that it is able to maintain the high place gained for it by men like Wilson, Shenstone, Worthington, and Rintoul.

Societies and Academies.

LONDON.

Royal Society, June 24.—Sir J. J. Thomson, president, in the chair.—Sir Ray **Lankester**: Some rostro-carinate flint implements and allied forms. A series of rostro-carinate flint implements is described and figured in this paper from various localities, including one from the Lower Palæolithic gravel of the valley of the Oise (France). It is shown that the form exhibited by the "Norwich test specimen," with ventral plane, dorsal plane or platform, anterior rostrum, with dorsal carina or keel, is modified in some of the specimens here figured by the "flaking away" of the ventral plane and by the hook-like curvature of the rostrum. A large Sub-Crag example is described, in which only one of the characteristic features of the type, namely, the great ventral plane, is retained, the implement serving as a very efficient "jack-plane." The evidence of the manufacture of these implements by a series of humanly directed blows is indicated by the illustrative drawings.—Lord **Rayleigh**: A re-examination of the light scattered by gases in respect of polarisation. I.: Experiments on the common gases. Re-determinations are given of the relative intensity of the two polarisations in the light scattered at right angles by pure gases. The paper is chiefly concerned with developing accurate experimental methods. The values obtained are as follows:

Gas	H_2	N_2	Air	O_2	CO_2	N_2O
Intensity of weak component polarisation ... (Strong component = 100.)	4·51	4·74	5·68	10·1	12·4	16·1

—A. **Mallock**: Note on the influence of temperature on the rigidity of metals. The experiments here described were carried out at the Davy Faraday Laboratory as a continuation of a somewhat similar set on the temperature-variations of Young's modulus (see Proc. R.S., A, vol. xcv.). The method adopted in the present series depended on the determination of the periods of a torsion balance the restitutive couple of which was given by the rigidity of a specimen of the metal tested at various temperatures. The coefficients of temperature-variation found for rigidity agreed with those for Young's modulus in so far that in both cases the variation diminished as the melting point of the metal increased. The chief value, however, of the present experiments was in showing that the natural plasticity or internal friction of metals (which leads to what has sometimes been called hysteresis) was even more affected by temperature than were the coefficients of elasticity, and that the value of "rigidity" obtained from the observed periods was very appreciably affected by the variation of plasticity. For this reason the numerical results are not given in the paper, but the method of experiment is described and the nature of the errors introduced by the change of plasticity stated.—E. F. **Armstrong** and T. P. **Hilditch**: A study of catalytic actions at solid surfaces. V.: The rate of change conditioned by a nickel catalyst and its bearing on the law of mass-action. The hydrogenation of selected simple organic compounds containing one ethylenic linkage has been studied with reference to the indications of a linear relation between the amount of hydrogenation and time which were observed in the case of mixtures of unsaturated glycerides (part i. of this series). It is now found that this relation, in the case of methyl and ethyl cinnamates, safrol, or anethol (when hydrogenated in the liquid state in presence of nickel at 140° or 180° C.), takes a linear

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